Marking and Application Guide

Swimming Pool Equipment, Spas, Fountains and Hydromassage Bathtubs

JANUARY 2012

Swimming Pool Equipment, Spas, Fountains and Hydromassage Bathtubs Marking and Application Guide

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142-01/2012

PREFACE

The growing popularity of home swimming and related activities has led to an increase in the number of swimming pools, spas, hot tubs and hydromassage bathtubs in use. Each of these products has different UL markings and different installation requirements.

UL has developed the Swimming Pool Equipment, Spas, Fountains, and Hydromassage Bathtub Marking Guide for inspectors, utilities, contractors, installers, users, designers, and other interested parties to aid in understanding this equipment and the applicable codes and standards in order to facilitate a reasonably safe and code-compliant installation. This equipment is intended to be installed in accordance with the *National Electrical Code® (NEC ®*), as well as other mechanical, fuel gas, building and plumbing codes as applicable, and their listing. These markings are required by the applicable UL and other Standards, and are part of the listing.

UL Marking and Application Guides are updated as necessary due to new product development, changes in the codes, or the need for clarification. To confirm the current status of any UL Marking Guide, please consult the Code Authorities page of the UL Web Site at http://www.ul.com/codeauthorities.

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INTRODUCTION

USE OF THIS GUIDE

This guide is intended to assist regulatory authorities, designers, and installers in determining the suitability of specific swimming pool, spa, hydromassage bathtub and fountain products in a particular installation and use, and to address concerns related to fire, shock, plumbing, gas, and/or mechanical hazards.

Products are Listed or Classified by UL under an appropriate product category. A four-letter code (shown in parenthesis) following every category title in this guide is the UL product category code designation. A list of product categories evaluated by UL, along with the applicable standard(s), can be found in Appendix B.

Each UL product category code provides a direct link to the Guide Information for the product category. The Guide Information includes the scope of the products covered, information relating to limitations or special conditions applying to the product, the requirements used for the investigation of the products, installation and use information, and information on product markings and the UL Mark to be used on the product. Guide information is available in the UL White Book and online at www.ul.com/database.

The product markings identified in this guide do not include every possible marking that could be provided either on a product or in its installation or operation instructions. The purpose of these markings is to provide you with an indication of the type of text and location of markings that address features that may be critical in determining if a product is certified and / or if it is installed correctly. Refer to the specific Guide Information for the product category for additional marking information.

The numbering for code sections used in this document may change as the specific code is updated. A list of model codes and standards applicable for each product can be found in Appendix C.

Additional information can be found at www.ul.com.

INFORMATION ON LISTING VERSUS CLASSIFICATION

Most codes and regulations require the certification of this equipment to applicable safety-related standards. They also may require this equipment to be certified to energy performance standards as well. Products that are certified to safety-related standards have been evaluated with regard to all reasonably foreseeable safety-related hazards, including fire, electrical shock and mechanical hazards. Such products are termed “UL Certified” or “UL Listed.” Products that are certified to a limited range of hazards, or for use under specific conditions are termed “UL Classified”.

It is important to distinguish the difference between “UL Certified” or “UL Listed” and “UL Classified” and the relation these terms have with the term “listed,” as used in various codes. The term “listed” in the codes generally indicates that the product is required to be evaluated in accordance with the appropriate standard(s) by an independent third party certification organization such as UL. The term “listed” in the codes should not be confused with the term “UL Listed,” as explained above. It is important to recognize that not all certification agencies make this distinction in their certification services.

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INFORMATION ON UL MARKS

There are several types of UL Marks that can be found on alternative energy equipment. General information on each of these Marks is provided below. Each has its own specific meaning and significance. The only way to determine if a product has been certified by UL is to look for the UL Mark on the product itself.

The UL Mark on a product means that UL has tested and evaluated representative samples of that product and determined that they meet the requirements in the applicable standard(s). Under a variety of UL programs, certified products are periodically checked by UL at the manufacturing facility to determine that they continue to comply with the standard(s).

The UL Marks may only be used on, or in connection with products certified by UL, and under the terms of a written agreement between the manufacturer and UL.

UL Listing Mark

This is one of the most common UL Marks. If a product carries this Mark, it means UL found that representative samples of this product met UL's *safety* requirements. These requirements are primarily based on UL's own published Standards for Safety, or other recognized third party standards. The UL Listed Mark includes the UL symbol, the word "Listed," the product or category name, and a control number assigned by UL.

UL Classification Mark

This Mark appears on representative samples of products that UL has evaluated but only with respect to specific properties, a limited range of hazards, or suitability for use under limited or special conditions. The UL Classified Mark includes the UL symbol, the word "Classified," a statement of the scope of evaluation, the product or category name, and a control number assigned by UL.

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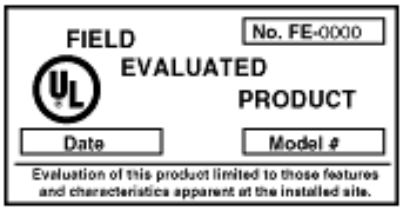
FIELD EVALUATIONS

You may encounter situations in which you are unable to determine if a product has been listed by a third-party organization. Or in other situations you might encounter a product bearing a listing label that may have been modified in the field, and now you question whether or not the product still complies with the applicable standard. UL offers a field evaluation service that provides data to assist you in making your decision whether to accept the product and/or approve the installation. Anyone directly involved with a product – including manufacturers, owners, contractors, and regulatory authorities – can request a Field Evaluation. Detailed information for this program can be found on UL's Web site at www.ul.com/field.



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1. PERMANENTLY INSTALLED SWIMMING POOLS

1.1. GENERAL

This section covers UL Listed equipment that is wired and plumbed at the installation site for the construction of a swimming pool permanently installed in the ground or above the ground. The suitability of the interconnection of various components, as well as the supply connection is determined by the authority having jurisdiction. UL evaluates and Lists all electrical and mechanical components of these pools. This includes water heaters, pumps, luminaires, water treatment equipment such as ozone generators and chlorinators, junction boxes, transformers, potting compounds, pool cover operators, pool covers, pool alarms, and controls, as well as some pre-packaged assemblies of components referred to as equipment assemblies or "Skid Packs." Equipment assemblies are usually intended for heated spas installed in the ground, but units without heaters are also suitable for small swimming pools permanently installed in the ground.

1.2. CONTROLS

General. These Listings cover units intended for the control of equipment used with swimming pools, spas or hot tubs. They typically consist of combinations of motor controllers and timers. Some may also have temperature-regulating circuits.

Listing Mark. The UL Listing Mark for these products includes a product name such as "Spa Controller," "Swimming Pool Controller" or other similar product name.

Field Installation. UL Listed controls are intended for permanent connection to the electrical supply system and are intended to be mounted at a minimum of 5 feet from the inside walls of a swimming pool or spa. Some units have ground- fault circuit interrupter (GFCI)-protected convenience receptacles and are intended for mounting at a minimum of 10 feet away. These Listed products are suitable for both indoor and outdoor use, unless they are marked "For Indoor Use Only."

Terminals On Load Side of GFCI Controls. A control with terminals on the load side of a ground- fault circuit interrupter (GFCI), provided to protect the field-installed conductors of an underwater lighting circuit, is marked to indicate that the field-installed conductors shall not occupy conduit, boxes or enclosures with the conductors of other circuits unless all other conductors are also on the load side of a GFCI.

Enclosures Intended For Direct Connection to a Wet-Niche or No-Niche Luminaire. Controls intended for such use are marked "Suitable for direct conduit connection to a wet-niche or no-niche luminaire" or equivalent where visible after installation. Conduit termination locations suitable for such use are specifically identified.

1.3. JUNCTION BOXES

General. Products Listed under this category are suitable for use at the supply end of conduit that extends directly to the forming shell of a wet-niche luminaire or the mounting bracket of a no-niche luminaire in a pool, spa, or fountain. These junction boxes are also suitable for use as underwater junction boxes for fountains and decorative pools.

Listing Mark. The UL Listing Mark for these units includes the product name "Swimming Pool Junction Box."

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Field Installation. Swimming pool and spa luminaire junction boxes are provided with the means of independent termination for the equipment grounding conductors inside the box. Each termination for an equipment grounding conductor will accommodate one conductor in the range of No. 16 to No. 12 AWG. A junction box marked “Suitable for Use With a Low-Voltage Luminaire” has equipment grounding conductor terminations suitable for the range of No. 16 to No. 10 AWG. Junction boxes are also provided with means to terminate No. 8 AWG supplementary equipment grounding conductors for use where the wet-niche or no-niche luminaire is installed using non-metallic conduit. A junction box and cover combination with a volume of 100 cubic inches or less is marked with its volume in cubic inches. Installation instructions indicate the flexible cord type and conductor size or the range of cord diameter to be used with an installed strain relief device. If the strain relief means is to be field-installed, complete installation instructions are provided.

1.4. LUMINAIRES (See App. A–Figs. 1, 2, 4, 5)

Listing Mark. Underwater swimming pool luminaires come in six basic types as described below. Luminaires suitable for swimming pool and spa equipment are identified by a Listing Mark with one of these luminaire type designations, along with text to indicate they are suitable for swimming pools. The Listing Marks of these products include one of the following product names as appropriate:

“Dry-Niche Underwater Luminaire For Swimming Pool,”
“Mounting Bracket For No-Niche Luminaire,”
“No-Niche Underwater Luminaire For Swimming Pool,”
“Housing For Wet-Niche Luminaire,”
“Wet-Niche Underwater Luminaire For Swimming Pool,”
“Underwater Luminaire for Aboveground Non-Storable Swimming Pools,” “Convertible Underwater Luminaire for Aboveground Swimming Pools,” or
“Fiber-Optic Underwater Luminaire for Swimming Pools.”

Luminaires intended for fountains or other vessels not intended to accommodate the complete or partial immersion of persons have a different identification. These luminaires are identified as “Submersible Luminaires.” A typical Listing Mark would be “Dry-Niche Submersible Luminaire”. Luminaires with only this type of Listing Mark or product name have not been evaluated for swimming pool or spa installations. Some luminaires have been evaluated for use as both a swimming pool or spa luminaire and a submersible luminaire. Luminaires suitable for both uses bear Listing Marks identifying both uses.

Field Installation:

Dry-Niche Luminaires. These luminaires are intended for permanent installation only in the wall of a swimming pool or a field-fabricated spa, unless accompanying installation instructions describe the option of installation in the bottom of the pool or spa. These luminaires are intended to be installed with the top of the lens not less than 18 inches below the normal water level, unless otherwise marked. They are designed for servicing from the rear through a passageway behind the pool or spa wall, or, if mounted in the bottom of the pool or spa, in a tunnel underneath the pool or spa. When the luminaire is properly installed in a housing or “niche,” no water should enter the niche.

Wet-Niche Luminaires. These luminaires are intended for permanent installation only in the wall of a swimming pool or field-fabricated spa, unless accompanying installation instructions describe the additional option of installation in the bottom of the pool or spa.

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These luminaires are also intended to be installed with the top of the lens not less than 18 inches below the normal water level, unless otherwise marked. These luminaires are intended for installation in permanently installed luminaire housings (forming shells) in which the luminaire will be completely surrounded by water in the normal installation. These luminaires are marked to indicate the proper luminaire housing or housings with which they are to be used, and the luminaire housings are marked to indicate the luminaire or luminaires with which the housing is to be used. These luminaires are provided with a factory-installed, permanently attached flexible cord that extends at least 12 feet outside the luminaire enclosure. This permits the luminaire to be removed from the luminaire housing and lifted to the pool or spa deck for servicing without lowering the water level or disconnecting the luminaire from the branch-circuit conductors. Luminaire housings that are intended to be used with luminaires provided with a No. 12 AWG or larger, Type SJ, SJT or SJTO flexible cord are marked for use with 3/4-inch or larger conduit. It is not intended that conduit reducers and conduit with a trade size less than the size accommodated by the threaded hub of the luminaire (fixture) housing be used.

No-Niche Luminaires. These luminaires are intended for permanent installation only in the wall of a swimming pool or a field-fabricated spa, unless accompanying installation instructions describe the option of installation in the bottom of the pool or spa. These luminaires are also intended to be installed with the top of the lens not less than 18 inches below the normal water level, unless otherwise marked. In addition, these luminaires are intended to be mounted to a bracket that is permanently secured in or on the wall where the luminaire will be completely surrounded by water. These luminaires, like wet-niche types, are provided with a factory-installed, permanently attached flexible cord that extends at least 12 feet outside the luminaire enclosure. The luminaires are marked with an identification of the mounting brackets for which they are suitable. The mounting brackets are also marked with an identification of the luminaires for which they are suitable.

Convertible Underwater Luminaires For Aboveground Swimming Pools. These luminaires are initially configured as underwater luminaires for aboveground storable swimming use (see Storable Swimming Pool section). They include provisions for the one-time field conversion of the luminaires to underwater luminaires for aboveground non-storable swimming pool use. Once converted, these luminaires are not suitable for modification back to their original configurations.

Fiber-Optic Underwater Luminaires. These luminaires consist of a lamp/electrical enclosure that is intended to be permanently mounted not less than 5 feet from the pool or spa wall and has a fiber-optic element and associated fittings to transmit the light to the pool or spa. The lamp/electrical enclosure is intended to be installed above the level at which water splashed from the pool or spa or from another source may collect.

Metal Conduit Only. A swimming pool luminaire housing (forming shell) for a wet-niche luminaire and a mounting bracket for a no-niche luminaire that is not provided with a grounding terminal for the supplemental No. 8 AWG grounding conductor that is required when non-metallic conduit is used is marked “CAUTION
— For proper grounding use only with metal conduit.”

Orientation, Luminaire. A swimming pool luminaire that depends on its location or position to function correctly is marked to indicate the way it is to be installed or used, unless the position is obvious.

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Orientation, Luminaire Housing and Mounting Bracket. If orientation of a swimming pool luminaire housing (forming shell) or mounting bracket is relied upon to orient the luminaire in a position necessary for its intended performance, the luminaire housing or mounting bracket is marked to indicate the position in which it is to be installed.

Underwater Luminaires for Aboveground Non-Storable Swimming Pools. These luminaires are intended only for permanent installation through or on the wall of an aboveground non-storable pool. They are intended to be installed with the top of the lens not less than 8 nor more than 10 inches below the top of the pool wall, unless the luminaire is otherwise marked. They are intended to be permanently connected to the supply with conduit. They may — for installation, maintenance or servicing — employ a maximum 5 feet length of jacketed flexible cord permanently connected between integral components of the luminaire. The installation instructions accompanying a luminaire with a non-enclosed flexible cord describe the method of proper routing and securement of the flexible cord and the method for installation of any guards or structural members to reduce the likelihood of unacceptable stress being imposed on the flexible cord.

Fresh and/or Sea Water Use. Luminaires for swimming pools filled with tap (municipal) or well water, including water that has been salt-treated for chlorine or bromine generation, are marked as suitable for fresh water. Luminaires for swimming pools filled with sea water are marked as suitable for sea water. Luminaires that have been evaluated for both applications may be marked for both.

Submerse Before Lighting. Luminaires that have been investigated for operation only while in contact with water are marked, where visible after installation, "CAUTION — To reduce the risk of electric shock, submerse before lighting".

Special Markings:

One-Time Thermal Protection. Swimming pool luminaires employing a one-time operation, thermal sensitive device are marked "Out of water operation (for longer than 3 min.) will permanently disable luminaire." Words in parentheses are optional.

Inoperable Out of Water. Swimming pool luminaires designed to be inoperable when **not** submerged are marked "This luminaire will not light out of water."

1.5. POTTING COMPOUNDS

General. This Listing covers compounds intended to encapsulate the grounding and bonding conductor splices or terminations in swimming pool and spa equipment such as luminaires, luminaire housings (forming shells) and junction boxes where the splices or termination may be exposed to fresh water pool or fountain water and sunlight for varying lengths of time, including continuous exposure.

These potting compounds are also suitable for use to fill underwater junction boxes. The container or package is marked to identify that they have been evaluated for adhering to stainless steel, copper alloy, and any other materials, if applicable.

Listing Mark. The Listing Mark of Underwriters Laboratories is provided on the smallest unit container in which the product is packaged. The UL Listing Mark includes the product name "Swimming Pool, Fountain and Spa Equipment Conductor Splice Potting Compound." Any of the three locations — "swimming pool," "fountain" or "spa equipment" — may be omitted.

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As the markings on the smallest unit container are the means by which the authority having jurisdiction determines if the product is UL Listed, the unit container should be retained at the site.

1.6. PUMPS

General. UL Listed pumps include those intended for permanent plumbing for use with permanently installed pools and spas, as well as portable units intended for use with storable pools.

A pump with means for permanent wiring connections or a 3-foot exible cord and plug, suitable for permanently installed pools is marked:

> "This Pump is for Use with Permanently Installed Pools Only — Do Not Use with Storable Pools. A permanently installed pool is constructed in or on the ground or in a building such that it cannot be readily disassembled for storage. A storable pool is constructed so that it may be readily disassembled for storage and reassembled to its original integrity."

Only pumps with this marking should be used with permanently installed pools.

Listing Mark. UL Listing Marks with the product names "Swimming Pool Pump," "Spa Pump," or "Swimming Pool or Spa Pump" indicate units suitable for use with swimming pools and spas. A unit for which the name includes "Spa Pump" has also, in addition to the swimming pool pump requirements, been evaluated for use with heated (122°F) water.

Field Installation:

Ground-Fault Protection. All cord-and-plug-connected pumps are intended to be connected to a circuit protected by a GFCI and are so marked. Each unit is provided with the following marking or equivalent: "WARNING — Risk of electric shock. Connect only to a grounding type receptacle protected by a ground- fault circuit interrupter (GFCI)."

Supply Connection. Unless constructed as indicated below, pumps intended for permanent plumbing connection are provided with means for permanent wiring connections.

Pumps intended for permanent plumbing connection and location at a minimum of 6 feet from the inside walls of a pool or spa may be provided with a 3-foot cord terminating in a grounding-type attachment plug that is the locking type.

Pumps intended for permanent plumbing connection and location at least 10 feet from the inside walls of a pool or spa may be provided with a 3-foot power supply cord with an attachment plug that is *not* the locking type. These units are marked "CAUTION — To reduce the risk of electric shock, install at least 10 feet from the inside walls of a pool. Do not use an extension cord."

Pumps supplied with a minimum 25-foot cord and attachment plug are intended for use with storable pools only and are so marked. These pumps are not suitable for permanently installed pools (in-ground and aboveground non-storable).

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1.7. TRANSFORMERS AND POWER UNITS

General. Products Listed in this category are enclosed transformers and DC output power supplies. They are intended to supply luminaires in fountains, swimming pools, and spas in accordance with Article 680 of the NEC®. The primary rating is 120 volts and the maximum secondary rating is 15 V rms and 1 kVA.

Listing Mark. The UL Listing Mark for these units includes by the product names "Fountain Transformer", "Swimming Pool Transformer," "Spa Transformer," or "Fountain, Swimming Pool or Spa Transformer", "Fountain Power Unit," "Swimming Pool Power Unit," "Spa Power Unit," or "Fountain, Swimming Pool or Spa Power Unit."

Special Markings:

Swimming Pool Junction Box Use. Unless marked otherwise, these transformers are not suitable for connection to a conduit which extends directly to a wet-niche or no-niche luminaire. Transformers not suitable for this use are to be used with a swimming pool junction box.

1.8. WATER HEATERS

Listing Mark. The UL Listing Mark with the product name "Swimming Pool Heater" or "Spa Heater" indicates suitability for use with permanently installed pools. Gas- or oil- red units are identified by the product names "Gas-Fired Swimming Pool Heater" and "Oil-Fired Swimming Pool Heater".

Field Installation:

Flow Rate. If a heater is marked with a minimum required water circulation capacity (flow rate), the swimming pool must have pumps with at least that capacity and circuit interlocks that permit heater operation only when the water is being circulated. This flow rate would either be marked on the circulating pump or provided in literature accompanying the pump.

Leakage Current Collectors (Electrical Heaters). If leakage current collectors are not integral to the heater but are provided for field installation, the installation and grounding of the collectors must be exactly as indicated in the installation instructions.

The heater grounding conductor and the leakage current collector grounding conductors should be the same size or larger than the power supply conductors and not smaller than No. 12 AWG.

Outdoor Use. Only heaters marked "Outdoor Use" are suitable for installation outdoors.

Special Markings:

Shutoff Valve. If the heater installation instructions indicate use of a shutoff valve, the heater is marked with its maximum working pressure. The heater is marked to indicate it should be used with a pressure relief valve certified as complying with requirements of either (1) the ASME or (2) ANSI Z21.22, Relief Valves and Automatic Gas Shutoff Devices for Hot Water Supply Systems. The heater is also marked to indicate that the pressure relief valve shall have a marked maximum set pressure not to exceed the marked maximum working pressure of the water heater and that the valve inlet should be able to accommodate a 3/4-inch or larger trade size pipe.

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1.9. HEAT PUMPS

Listing Mark. The UL Listing Mark with a product name “Swimming Pool Heat Pump,” “Spa Heat Pump,” or “Swimming Pool and Spa Heat Pump” indicates suitability for use with permanently installed pools.

Field Installation:

Outdoor Use. Only heat pumps marked “For Outdoor Use” or the equivalent are suitable for installation outdoors.

1.10. WATER TREATMENT EQUIPMENT

General. Most water treatment equipment is Listed in the category “Water Treatment Equipment” (WDLC). This category includes chlorinators, ozone generators, ion generators, ultraviolet sanitizers and similar equipment intended to sanitize water in pools, spas and hot tubs. It also includes equipment designed to monitor water chemistry in pools, spas and hot tubs. This monitoring equipment may also have the capability of adding chemicals to the water to adjust water chemistry. Ozone generators may also be Classified in the category “Ozone Generators” (WCKA).

The ability of this equipment to sanitize pool and spa water has not been determined. Equipment that has been evaluated for sanitation is Classified in accordance with the requirements of the National Sanitation Foundation Standard Number 50 and can be located under the category (WCNZ) Pool and Spa Equipment Classified in accordance with NSF Standard Number 50”.

Listing Mark. The UL Listing Mark for water treatment equipment other than ozone generators includes the product name “Swimming Pool Chlorinator,” “Spa Chlorinator,” “Swimming Pool and Spa Chlorinator,” or other appropriate product name.

Unique Hazard Considerations. Hazards related to the chemicals generated from chlorinators, brominators, or ion generators are not evaluated by UL as part of Listing or Classification investigations.

1.11. OZONE GENERATORS

Listed Units. Physiological effects of the ozone output of UL Listed units marked “For Outdoor Use Only” have not been evaluated. Listed units marked for indoor use have been evaluated in a standard room installation to determine if any ozone emitted from a test tank is within established limits. Listed units are evaluated to determine that no ozone is emitted from unintended locations of the unit during normal use or abnormal operation such as a blocked output or no flow through a venturi. The Listing Mark for these units has the product identity “Ozone Generator.”

Classified Units. Physiological effects of the ozone output of Classified units have not been evaluated. Classified units are evaluated to determine that no ozone is emitted from unintended locations of the unit in normal use or abnormal operation such as a blocked output or no flow through a venturi.

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Classified units are identified by the following Classification Marking on the product:

"OZONE GENERATOR
CLASSIFIED BY UNDERWRITERS LABORATORIES
WITH RESPECT TO RISKS OF ELECTRIC SHOCK,
FIRE AND MECHANICAL INJURY ONLY"

Installation. Ozone generators are not intended for field installation under the skirt of a spa or hot tub, unless the spa is specifically marked for this use.

2. MOTORIZED POOL COVER OPERATORS

2.1. GENERAL

Motorized pool cover operators are covered by the product category "Swimming Pool and Spa Cover Operators, Electric" (WDDJ). They are evaluated for fire, electric shock and mechanical hazards only. Some motorized pool cover operators may incorporate pool covers Classified under the category "Covers For Swimming Pools and Spas" (WBAH). Unless Classified as a power safety cover under the category "Covers For Swimming Pools and Spas," (WBAH), a cover provided with the operator has not been evaluated as a safety cover.

2.2. LISTING MARK

The UL Listing Mark for these products includes the product name "Swimming Pool Cover Operator," "Spa Cover Operator" or "Pool Cover Operator."

3. STORABLE SWIMMING POOLS

3.1. GENERAL

Equipment Listed for use with storable pools includes pumps, Luminaires (Lighting (Fixtures) and water treatment equipment. This equipment is Listed under the product categories of "Pumps" (WCSX) and "Luminaires and Forming Shells" (WBDT), and "Water Treatment Equipment"(WDLC).

3.2. LUMINAIRES (See App. A–Fig. 3)

General. Underwater luminaires for aboveground storable swimming pools are intended for temporary installation only through or on the wall of an aboveground storable pool. UL considers a storable pool to be one that is constructed above the ground and is capable of holding water to a maximum depth of 42 in. (1.07m). These luminaires are intended to be installed with the top of the lens not less than 8 nor more than 10 inches below the top of the pool wall unless the luminaire is otherwise marked. These luminaires are provided with a minimum of 25 feet of jacketed flexible cord, which is intended to be routed away from the pool to the transformer or ground- fault circuit interrupter assembly. The transformer or GFCI assembly is intended to be temporarily mounted to a building or structure and is provided with a minimum 3-foot/ maximum 6-foot power supply cord for connection to the supply source.

Listing Mark. The UL Listing Mark for these products includes the product name "Underwater Luminaire for Aboveground Storable Swimming Pool."

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3.3. PUMPS

Listing Mark. Pumps suitable for this application have a Listing Mark with the product name "Swimming Pool Pump" or "Swimming Pool Pump or Spa Pump."

Storable Pools Only. The type of pump suitable for use with storable pools has a 25-foot flexible cord and attachment plug. It is marked:

"This Pump is for Use with Storable Pools Only — Do Not Use with Permanently Installed Pools. A storable pool is constructed so that it may be readily disassembled for storage and reassembled to its original integrity. A permanently installed pool is constructed in or on the ground or in a building such that it cannot be readily disassembled for storage.

Field Installation:

Double Insulation. Pumps with a minimum 25-foot supply cord are double insulated and have inaccessible metal parts grounded with the equipment-grounding conductor terminated at the attachment plug. These pumps do not have a bonding connector. They are not intended to be connected to an equipotential bonding grid.

Ground-Fault Protection. Pumps for storable swimming pools are provided with a factory installed Class A ground-fault circuit-interrupter. It is an integral part of the attachment plug or in the supply cord within 12 inches of the attachment plug.

3.4. WATER TREATMENT EQUIPMENT

General. UL Listed chlorinators or brominators, as well as Listed or Classified ozone generators, may be used with this equipment. Their limitations are specified in the section titled "PERMANENTLY INSTALLED SWIMMING POOLS."

4. FIELD CONSTRUCTED SPAS

4.1. GENERAL

This section covers field constructed spas or hot tubs in which separately Listed equipment is plumbed and wired in the field. This equipment includes heaters, blowers, pumps, controls, water treatment equipment, luminaires, heat pumps, transformers and suction fittings. Each is intended to be installed in accordance with the *National Electrical Code®,* NFPA 70, and model building, plumbing, mechanical, fuel gas codes, manufacture's instructions, and with provisions detailed in the section following.

A group of the above components may be pre-packaged in a Listed equipment assembly. These assemblies are designed for installation with a field-supplied tub.

4.2. BLOWERS

General. UL Listed blowers are intended for both indoor and outdoor use, unless marked otherwise. Unless otherwise indicated in the installation instructions, blowers should be mounted at least 12 inches above the over flow of a spa or hot tub.

4.3. CONTROLLERS

These are identical to and should be used with the same limitations as those previously specified under "PERMANENTLY INSTALLED SWIMMING POOLS."

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4.4. LUMINAIRES

Luminaires used in this installation are the same as those previously detailed under "PERMANENTLY INSTALLED SWIMMING POOLS."

4.5. PUMPS

Pumps in this application are essentially identical to those previously discussed under "PERMANENTLY INSTALLED SWIMMING POOLS." The one exception is the product name accompanying the UL Listing Mark should indicate if the pump is either a "Spa Pump" or "Swimming Pool or Spa Pump." A pump with a Listing Mark indicating only "Swimming Pool Pump" has not been investigated for use with maximum 50° C (122°F) water.

4.6. SUCTION FITTINGS

General. These units are intended to be provided at all the intake ports of the spa. They have been evaluated to determine that they would not pose a hair entrapment danger when operated at or below their marked flow rates. The maximum flow through the suction fitting should not exceed the marked maximum flow rate of the suction fitting.

4.7. WATER HEATERS

Water heaters can be used with the same limitations described in "PERMANENTLY INSTALLED SWIMMING POOLS."

4.8. WATER TREATMENT EQUIPMENT

Water treatment equipment can be used in this type of installation in accordance with the limitations previously detailed for water treatment equipment under "PERMANENTLY INSTALLED SWIMMING POOLS."

4.9. EQUIPMENT ASSEMBLIES

General. Equipment assemblies ("Skid Packs") are pre-packaged combinations of equipment such as pumps, filters, heaters, blowers, luminaires, and controls. They are intended to be permanently plumbed to a field supplied spa or hot tub using non-metallic piping only. They are designed for indoor or outdoor use and are intended to be installed at least 5 feet from the inside walls of a spa or hot tub.

UL Listed equipment assemblies have not been evaluated for below-grade installation and are not suitable for use within an outer enclosure, or under the skirt of a spa or hot tub, unless so marked.

Listed equipment assemblies that contain a gas- red water heater have not been evaluated for (1) indoor use, (2) use within an outer enclosure, or (3) use under the skirt of a spa or hot tub, unless so marked.

Some equipment assemblies do not contain a heater and, therefore, do not have a water temperature regulating control or water temperature limiting control. Units of this design are intended to have a water heater, a temperature regulating control, and a temperature limiting control provided in the final installation.

Listing Mark. The UL Listing Marks for these products include the following product names, as appropriate:

"Equipment Assembly for Spa/Hot Tub,"

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"Hot Tub Equipment Assembly," or
"Spa Equipment Assembly."

Field Installation:

GFCI Protection. Cord-connected equipment assemblies have GFCI protection provided. Convertible equipment assemblies have protection provided in the 120-volt configuration. They are protected in the 240-volt configuration, unless marked "Connect To A Circuit Protected By A GFCI When Connected In The 240-volt Mode" or the equivalent. Permanently connected equipment assemblies may or may not have integral GFCI protection. If not, the installation instructions indicate the unit should be connected to a circuit protected by a GFCI. If integral GFCI protection is provided, it protects all circuits.

Disconnecting Means. A convertible or permanently connected unit may be additionally provided with an integral disconnecting means not intended to substitute for that required by NEC® section 680.12.

Suction Fittings. To reduce the risk of hair and body entrapment, equipment assemblies are intended for use with a UL Listed suction fitting, the flow rate of which meets or exceeds the flow rate marked on the equipment assembly. Each equipment assembly is marked with "WARNING — PREVENT DROWNING"
1. Supervise children at all times. 2. Attach spa cover after each use. Install a suction fitting with a marked flow rate of not less than ___ gallons per minute." In this case, the ___ is filled in by the manufacturer with the gallons per minute flow rate of the assembly.

Supply Connection. These units may be designed for either permanent wiring or connection with a flexible cord and plug. They may also be designed for field convertibility from a 120-volt cord connected configuration to a 240-volt permanently wired configuration only. The electrical rating includes the minimum supply conductor ampacity and the ampere rating of the supply conductor overcurrent protective device.

Underwater Lighting Circuit. Equipment assemblies that have terminals on the load side of a ground-fault circuit interrupter, which protects field-installed conductors of an underwater lighting circuit, are specially marked. The markings indicate that the field-installed conductors shall not occupy conduit, boxes or enclosures with conductors of other circuits, unless all other conductors are also on the load side of a ground-fault circuit interrupter. Suitable segregation or isolation of the circuits is maintained within the equipment.

Special Markings:

Multiple Disconnects. If more than one disconnect switch is required to disconnect all power to a unit, the unit is marked — in a place readily visible to service personnel prior to disconnecting the main supply for the unit — with the word "WARNING" and the following or equivalent, "PREVENT ELECTROCUTION — Disconnect all supply connections before servicing. This appliance has _____ supply connections."

5. SELF-CONTAINED SPAS

5.1. GENERAL

This section covers self-contained spas for aboveground use, for household or commercial use, and for indoor and outdoor use, unless marked otherwise. Spas are not designed or

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intended to be drained after each use. They are intended for installation in accordance with Article 680 of the *National Electrical Code®,* NFPA 70 and model building, plumbing, mechanical, fuel gas codes, and the manufacturer's installation instructions.

Units come in three basic designs:

1. Most units are shipped completely assembled from the factory and require only supply connection in the field.

2. Some units, referred to as "Knockdown" spas, are types for which a spa shell, equipment assembly and skirt are shipped separately. The shell and equipment assembly are plumbed at the factory and connected together in the field with threaded unions.

3. Additional units, referred to as "Modular" spas, are similar to "Knockdown" units except they are plumbed in the field. All parts are provided and pre-cut, if needed, and accompany applicable instructions and accessories such as polyvinyl chloride (PVC) solvent. They are intended for assembly by untrained users and the suitability of all interconnections and wiring is to be determined by authorities having jurisdiction.

"Modular" or "Knockdown" designs are accompanied by detailed assembly instructions and have identifying markings on each sub-assembly. The names or model numbers are specified in the assembly instructions so the user can correctly assemble the unit and the inspection authority can determine that the unit was assembled using the correct parts.

5.2. LISTING MARK

The UL Listing Mark includes the product name "Self-Contained Spa."

5.3. FIELD INSTALLATION:

Branch-Circuit Protection. A permanently-wired spa intended to be protected by a branch-circuit overcurrent device rated less than the maximum rating of the branch-circuit overcurrent device permitted by the NEC® is marked to indicate the maximum rating of the branch-circuit overcurrent device for which the unit has been investigated and found acceptable. The electrical rating includes the minimum supply conductor ampacity and the ampere rating of the supply conductor overcurrent protective device.

Gas-Fired Heaters. Self-contained spas may be provided with gas fired heaters. Spas with gas-fired heaters are intended for permanent wiring and permanent installation, and unless otherwise marked, are intended for outdoor use only.

Options. The installation instructions of self-contained spas may indicate options such as lighting kits, blowers, additional pumps or ozone generators. These option kits are only to be used in spas with installation instructions that indicate the spas are factory-wired to accommodate them.

Supply Connection. Self-contained spas may be cord-connected, convertible or permanently wired. A convertible spa is shipped from the factory with a power supply cord but is designed for field conversion to a permanently wired configuration, either 120-volt, 240-volt or both. Once a convertible spa is converted to permanently wired, it is not intended to be returned to a cord-connected configuration.

Ground-Fault Protection. Cord-connected spas have GFCI protection provided.

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Convertible spas have protection provided in the 120-volt configuration. They are also protected in the 240-volt configuration, unless marked “Connect To A Circuit Protected By A GFCI When Connected In the 240-volt Mode,” or equivalent. Permanently connected spas may or may not have integral GFCI protection. If not, the installation instructions indicate the unit should be connected to a circuit protected by a GFCI. If integral GFCI protection is provided, it protects both 120-volt and 240-volt circuits.

5.4. SPECIAL MARKINGS:

Spa Caution Marking. To help reduce the risk of electric shock from other electrical appliances used near the spa, each unit is marked “WARNING” — Risk of Electrical Shock. Do not permit any electrical appliance (such as a light, telephone, radio, or television) within 5 feet of this spa.”

6. HYDROMASSAGE BATHTUBS

6.1. GENERAL

This section includes UL Listed indoor hydromassage bathtubs (whirlpool bathtubs) for residential or commercial use. They are intended for permanent connection to the building plumbing. The hydromassage bathtub consists of a drainable tub and a water or air pump, and may include other equipment such as a luminaire, control, air blower, heater or suction fittings. These units are intended to be drained after each use. These units are not intended to be field assemblies of Listed parts. Although they may include a Listed swimming pool or spa pump, the entire unit — consisting of shell, pump and any other related electrical components — is evaluated and Listed as a complete appliance. The pump is not intended to be installed away from the tub.

6.2. LISTING MARK

These Listings appear in the Electrical Appliance and Utilization Equipment Directory (Orange Book and online at www.ul.com/database). The Listing Mark for this category contains the product name “Hydromassage Bathtub.” The Listing mark for heaters intended to be installed after the bathtub leaves the factory contains the product name “Hydromassage Bathtub Accessory”.

6.3. PLUMBING ASSESSMENT

UL Listed hydromassage bathtubs may also be Classified to either the water retention requirements or all requirements of ASME/ANSI A112.19.7M - +. The combined Listing Mark/Classification marking consists of the Listing Mark described at the beginning of this section and the following marking: “Also Classified by Underwriters Laboratories in accordance with “*,” where “*” is one of the statements detailed below:

1. “ANSI A112.19M - +”
2. “Water Retention Test requirement from ANSI A112.19.7M - +”

+ issue date of Standard or latest addendum.

6.4. FIELD INSTALLATION:

Supply Connection. Most units are intended for permanent connection to the branch circuit. Bathtubs may be provided with a factory- installed maximum three-foot length of jacketed flexible cord terminating in an attachment plug.

Branch-Circuit Protection. A unit intended to be protected by a branch-circuit overcurrent

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device rated less than the maximum rating of the branch-circuit overcurrent device permitted by the NEC® is marked to indicate the maximum rating of the branch-circuit overcurrent device for which the unit has been investigated and found acceptable.

Factory Configuration Information. Each hydromassage bathtub is provided with a marking on the wiring diagram, in the installation instructions or on a separate configuration sheet, to identify the factory-installed components of the unit. These components include pumps, controls, heaters, luminaires, and supply cords. The configuration marking and the installation instructions are intended to be available during installation and inspection.

Ground-Fault Protection. Whether they are permanently wired or use a cord and plug, these units are intended to be protected by a ground-fault circuit interrupter. Each unit is plainly marked with the following or equivalent statement: “Connect only to a circuit protected by a ground-fault circuit interrupter (GFCI).”

Multiple Supply Sources. A hydromassage bathtub may have provision for a maximum of two supply sources. If the unit is cord-connected, each single source must be an individual branch circuit rated not more than 20 amperes. Units requiring more than one disconnect switch to disconnect all power are provided with a marking warning to this effect.

Options. Hydromassage bathtubs may have option kits indicated in the installation instructions. These typically include blowers, heaters or luminaire assemblies. Hydromassage bathtubs intended for heaters to be installed after the bathtub leaves the factory are factory configured with a fitting to be removed and replaced by the heater. These units are marked “Suitable for Field-Installed Heater Accessory” and “Use only Accessory Heaters Marked for Use With This Bathtub.” Bathtubs not factory-configured for a field-installed heater are marked “Not Suitable for Field-Installed Heater.”

7. FOUNTAINS

7.1. GENERAL

This section covers fountains with UL Listed equipment assembled and connected in the field. Electrical products for use in fountains are Listed under the following categories: “Pumps, Motor-Operated Water” (REUZ), “Plumbing Accessories” (QMTX) and “Submersible Luminaires (Fixtures)” (IFEV), “Pumps” (WCSX) and “Industrial Control Panels” (NITW) (identified as fountain control panels).

7.2. SUBMERSIBLE LUMINAIRES

General. Products Listed in this category include submersible luminaires and submersible junction boxes. Submersible luminaires for use in fountains are not suitable for use in vessels intended for partial or complete immersions of persons.

Listing Mark. UL Listed submersible luminaires and junction boxes for use in fountains have a Listing Mark with the product names:

“Mounting Bracket for No-Niche Luminaire (Fixture),”
“Housing for Wet-Niche Luminaire (Fixture),”
“Submersible Luminaire (Fixture) Wet-Niche Type,”

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"Submersible Luminaire (Fixture) Dry-Niche Type,"
"Submersible Luminaire (Fixture) No-Niche Type,"
"Submersible Luminaire (Fixture) Special Use," or
"Submersible Junction Box."

Field Installation:

Dry-Niche Submersible Luminaire. This luminaire type is intended for permanent installation only in the wall of built-in fountains, unless accompanying installation instructions describe additional option of installation in the bottom of the fountain. These luminaires are designed for servicing from the rear through a passageway behind the fountain wall or, if mounted in the bottom of the fountain, in a tunnel underneath the fountain. For the purposes of installation, maintenance or servicing, the luminaire may include a factory-installed length of flexible cord terminating in an attachment plug. A receptacle outlet assembly for connection of the attachment plug to the branch-circuit may be provided as an integral part of the niche included with the luminaire.

Wet-Niche Submersible Luminaire. These luminaires are intended to be installed in the wall of built-in fountains, unless accompanying installation instructions describe additional option of installation in the bottom of the fountains. They are intended for installation in a permanently installed luminaire housing (forming shell) in which the luminaire will be completely surrounded by water. These luminaires are marked to indicate the proper luminaire housing or housings with which they are to be used. Luminaire housings are marked to indicate the luminaire or luminaires with which the luminaire housings are to be used. These luminaires are provided with a factory-installed, permanently attached flexible cord that extends at least 12 feet outside the luminaire enclosure to permit the luminaire to be removed from the luminaire housing and lifted to the fountain deck for servicing without lowering the water level or disconnecting the branch-circuit conductors. Luminaires with longer cords are available for installations with a junction box or splice enclosure located where a longer cord is necessary to permit luminaire removal from the luminaire housing and placement on the deck for servicing.

No-Niche Submersible Luminaire. These luminaires are intended to be installed on the walls of built-in fountains, unless accompanying installation instructions describe the additional option of installation in the bottom of the fountains. These luminaires are to be mounted to a bracket and permanently secured in or on the wall, with the luminaire completely surrounded by water. These luminaires are provided with a factory installed, permanently attached flexible cord that extends at least 12 feet outside the luminaire enclosure. The cord is intended to function similarly to those provided with a wet niche type luminaire. The luminaires are marked with an identification of the mounting bracket for which they are suitable. The mounting brackets are also marked with an identification of the luminaires for which they are suitable.

Submersible Luminaire Special Use Type. These luminaires are intended to rest directly on the fountain or on other surfaces within the perimeter of the fountain. The luminaires are provided with a permanently attached flexible cord intended to terminate in a submersible junction box or to be routed out of the fountain through conduit to a junction box.

Metal Conduit Only. A submersible luminaire housing (forming shell) that does not have a grounding terminal is marked "CAUTION — For proper grounding use only with metal

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conduit."

Orientation, Luminaire. A submersible luminaire that depends on its location or position to function correctly is marked to indicate the way it is to be installed or used, unless the position is obvious.

Orientation, Luminaire Housing and Mounting Bracket. If a submersible luminaire housing (forming shell) is relied upon to orient the luminaire in a position that is necessary for its intended performance, the luminaire housing or mounting bracket is marked to indicate the position in which it is to be installed.

Submerse Before Lighting. Luminaires that have been investigated for operation while submersed under water are marked "Submerse Before Lighting" or the equivalent, and such a marking must be visible after installation of the luminaire. +

7.3. SUBMERSIBLE PUMPS

These are UL Listed under the product categories of "Plumbing Accessories" (QMTX) or "Pumps, Motor-Operated Water" (REUZ). The Listing Mark product name is "Submersible Pump" or equivalent. These pumps have not been investigated for use with or in proximity to swimming pools or spas.

7.4. CONTROL PANELS

Control panels intended for use with floating or permanent architectural fountains are UL Listed under the Product category "Industrial Control Panels" (NITW). The control panel nameplate includes the marking "Industrial Control Panel for Floating Fountain" or "Industrial Control Panel for Permanently Installed Fountain" or "Fountain Control Panel"

8. COVERS FOR SWIMMING POOLS AND SPAS

8.1. GENERAL

This section covers swimming pool and spa safety covers, including both manually and power-operated types. Also included are special-purpose covers such as energy conservation or solar energy covers.

Manual safety covers are intended to impede access to the contained body of water. They are provided with means for removing significant levels of collected surface water.

Power safety covers are barriers that can be placed over the water area and are removed with a motorized mechanism. They are intended to impede access to the contained body of water. A power safety cover includes an operator that is Listed under the category "Swimming Pool and Spa Cover Operators, Electric" (WDDJ).

Other types of covers such as energy conservation or solar energy covers are not intended to impede access to the contained body of water. Such covers are marked "This Is Not A Safety Cover."

8.2. CLASSIFICATION MARKING

The Classification marking for these products includes the names "Manual Safety Cover," "Power Safety Cover" or "Pool Cover."

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9. SUCTION FITTINGS

9.1. General

This category covers suction fittings intended for use in swimming pools, wading pools, in-ground and self-contained spas, hot tubs, and similar installations. These fittings have been investigated for resistance to hair, body, finger and limb entrapment. Suction fittings have been investigated for both indoor and outdoor use. They are intended to be installed following the instructions that are packaged with each fitting.

9.2. Ratings

Each suction fitting is marked with a water flow rate in gallons per minute. This rate must equal or exceed the maximum flow rate of the pump(s) used in the water circulating system.

9.3. Installation Markings.

These fittings are marked with the intended installation position: "Wall Only,""Floor Only" or "Wall or Floor." They may additionally be marked with the statement, "For Single or Multiple Drain Use,""For Single Drain Use" or "For Multiple Drain Use Only." Units marked “For Multiple Drain Use Only” are intended for installations with at least two fittings per return. The fittings are intended to be installed in accordance with local installation codes so that it is unlikley both could simultaneously be blocked.

9.4. Listing Mark.

The Listing Mark for these products includes one of the following product names: "Swimming Pool Suction Fitting" (or "Sw Pool Sctn Ftn").

10. SPEAKERS

10.1 General

The category UEAY (Speakers) covers underwater speakers.

10.2 Listing Mark.

The Listing Mark for these products includes the product name “Underwater Speaker”.

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APPENDIX A

Schematic Diagrams for Luminaire Installations

Fig. 1 - Underwater Luminaire for aboveground non-storable swimming pool.

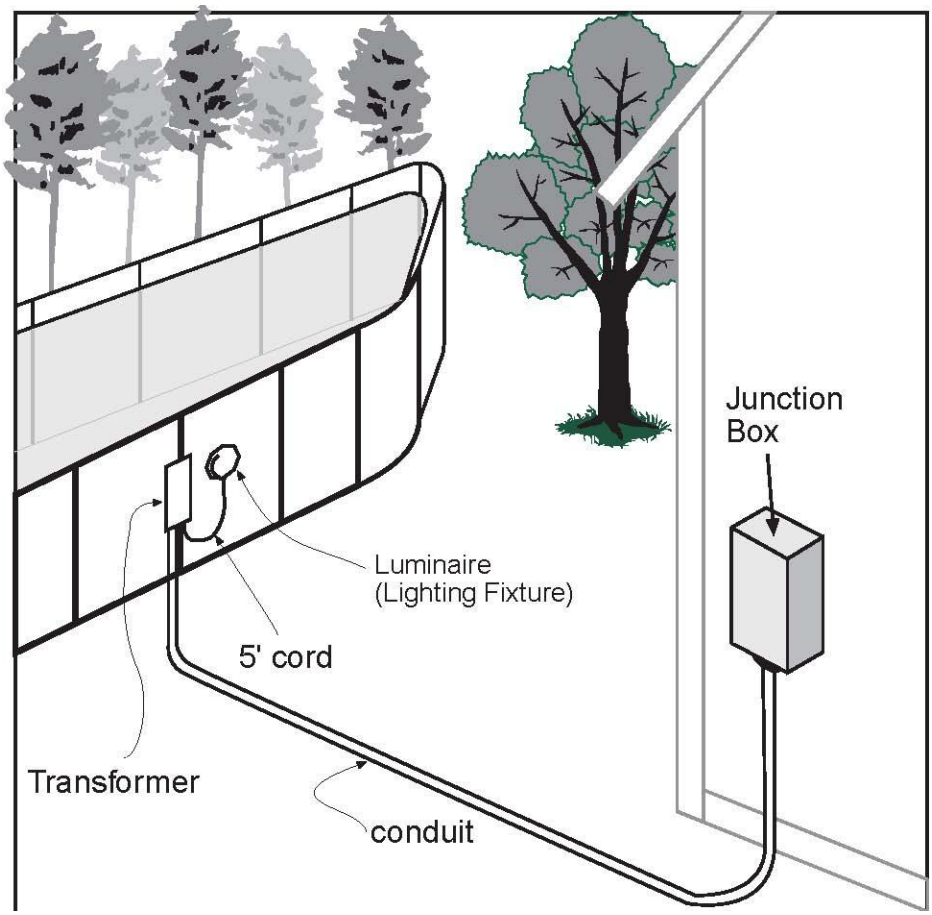

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Fig. 2 - Underwater Luminaire for aboveground non-storable swimming pool.

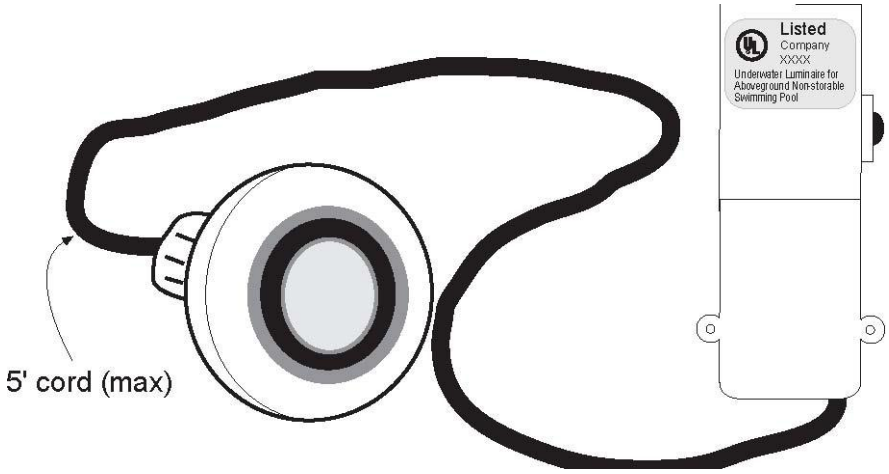

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Fig. 3 - Underwater Luminaire for aboveground storable swimming pool.

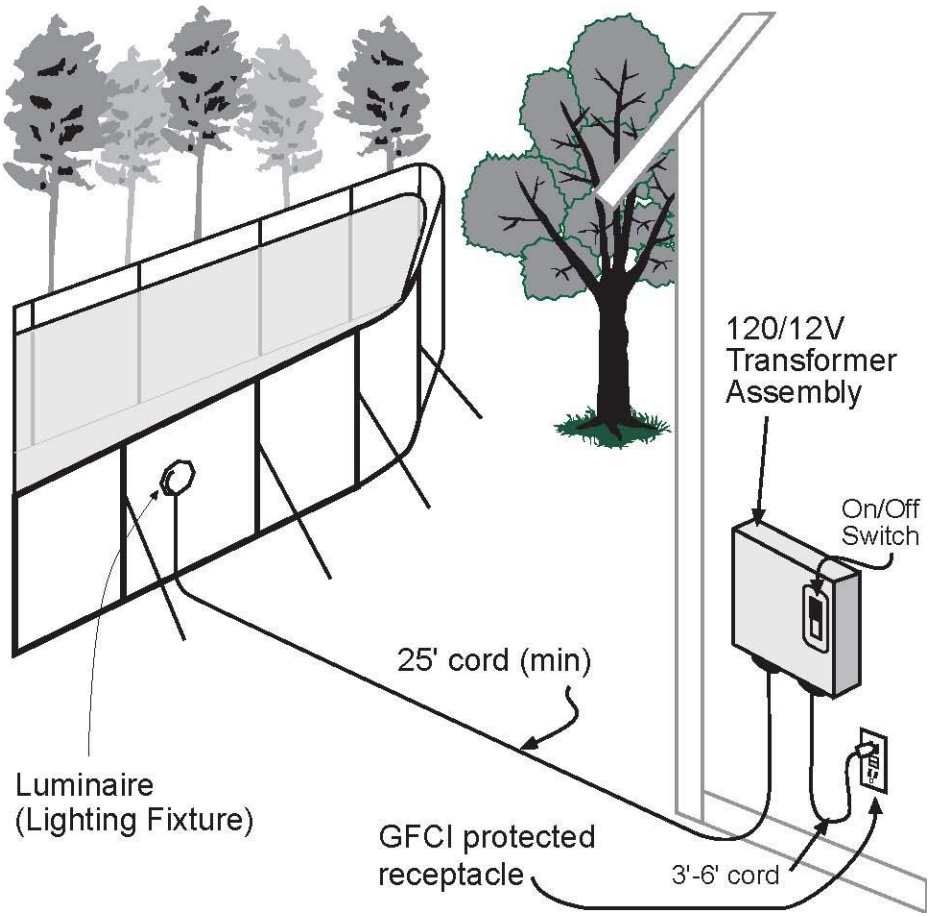

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Fig. 4 - No-Niche Underwater Luminaire.

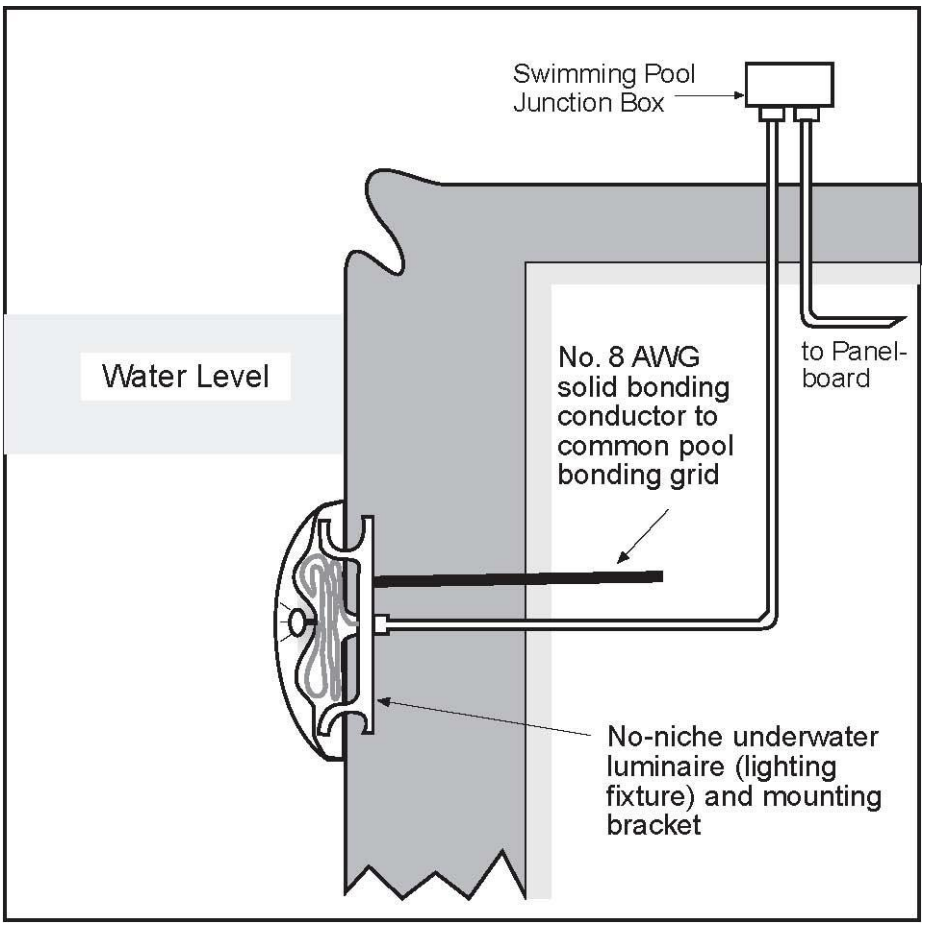

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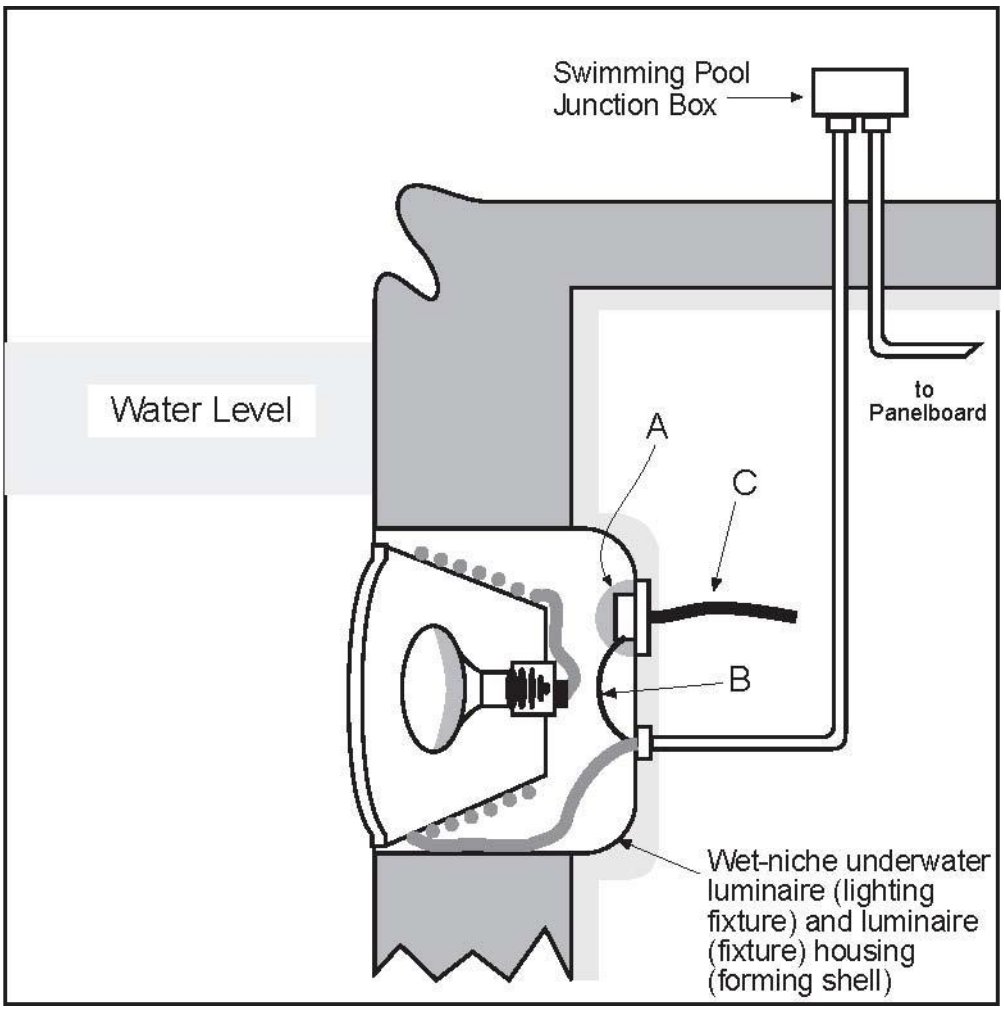
Fig. 5 – Wet-Niche Underwater Luminaire.



A. UL Listed swimming pool potting compound encapsulating supplemental equipment grounding conductor terminal.

B. No. 8 AWG insulated supplemental equipment grounding conductor where nonmetallic conduit used.

C. No. 8 AWG solid bonding conductor to pool common bonding grid.

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APPENDIX B:
UL SWIMMING POOL, SPA, FOUNTAIN, AND HYDROMASSAGE BATHTUB PRODUCT CATEGORIES

UL does list this type of equipment and continues to develop new product categories to address the safety issues associated with this type of equipment. Below is a list of product categories that UL currently lists to address these types of products. Each product category is tabulated with a UL Category Code. By clicking on the code, you will be linked to the UL Guide Information for the category and any Listings or Classifications under that Product Category in the UL Online Certifications Directory database at www.ul.com/database.

Category Code	Category Name	Standard Used
WABX	**Swimming Pool and Spa Equipment**	
WAGN	Blowers	UL 1563
WAWU	Controls	UL 1563
WBAH	Covers for Swimming Pools and Spas	ASTM F1346
WBRR	Heaters	UL 1261
WBYQ	Hot Tub and Spa Equipment Assemblies	UL 1563
WCEZ	Junction Boxes	UL 1241
WBDT	Luminaires and Forming Shells	UL 676
LSHW	Oil-Fired Swimming Pool and Spa Heaters	UL 726 and UL 1563
WCKA	Ozone Generators	UL 1563
WCNZ	Pool and Spa Equipment Classified in Accordance with NSF 50	ANSI/NSF 50
WCRY	Potting Compounds	UL Subject 676A
WCSX	Pumps	UL 1081
UDGJ	Residential Water Hazard Entrance Alarms (pool alarms)	UL 2017
WCZW	Self-Contained Spas	UL 1563
UEAY	Speakers	UL 1480
WEBS	Suction Fittings for Swimming Pools, Wading Pools, Spas and Hot Tubs	ANSI/ASME A112.19.8 ANSI/APSP 16
WDDJ	Swimming Pool and Spa Cover Operators, Electric	UL Subject 2452
WDUT	Swimming Pool and Spa Equipment, Miscellaneous	UL 1563 and UL 1081
WDGV	Swimming Pool and Spa Transformers	UL Subject 379
WDLC	Water Treatment Equipment	UL 1081, UL 1563
	Fountains and Fountain Equipment	
AWEG	Architectural and Floating Fountains	UL 778, UL 676, UL 508[A]
QMTX	Plumbing Accessories	UL 1951
REUZ	Pumps, electrically operated, liquid	UL 778
IFEV	Submersible Luminaires	UL 676
	Hydromassage (Whirlpool) Bathtubs	
NCHX	Hydromassage Bathtubs	UL 1795, ASME A112.19.7
PIDF	Medical Electrical Equipment, Professional (hydrotherapy tubs)	UL 60601-1

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APPENDIX C:
POOL AND SPA CODES AND STANDARDS

Pool and spa equipment must be installed in accordance with model codes and installation standards. These codes require these products to be listed and labeled in accordance with applicable product standards.

UL standards are typically identified as Standards for Safety and cover reasonably foreseeable risks associated with a product. Limitations applicable to the products covered by the standard are delineated in the Scope section of the standard. UL standards are intended to:

- Identify requirements for evaluation of products and provide consistency in the application of these requirements.
- Provide guidance for development of products by manufacturers.
- Provide requirements compatible with nationally recognized installation codes

An UL Outline of Investigation is a document that contains the construction, performance, and marking criteria used by UL to investigate a product when the product is not covered by the scope of an existing UL Standard for Safety. Outlines are not consensus documents and do not require review by an UL Standards Technical Panel (STP) or other external group.

ANSI/ASME A112.19.7	Requirements for Whirlpool Bathtub Appliances
ANSI/ASME A112.19.8	Suction Fittings for Use in Swimming Pools, Wading Pools, Spas, and Hot Tubs
ANSI/APSP 16	Suction Fittings for Use in Swimming Pools, Wading Pools, Spas, and Hot Tubs
ASTM F1346	Standard Performance Specification for Safety Covers and Labeling Requirements for All Covers for Swimming Pools, Spas and Hot Tubs
IBC	International Building Code
IFGC	International Fuel Gas Code
IMC	International Mechanical Code
NFPA 54 (NFGC)	National Fuel Gas Code
NFPA 70 (NEC)	National Electrical Code
NSF/ANSI 50	Circulation System Components and Related Materials for Swimming Pools, Spas/Hot Tubs
UL Subject 379	Outline of Investigation for Transformers for Fountain, Swimming Pool, and Spa Luminaires
UL 508A	Industrial Control Panels
UL 60601-1	Medical Electrical Equipment
UL 676	Underwater Lighting Fixtures
UL Subject 676A	Outline of Investigation for Potting Compounds for Swimming Pool, Fountain, and Spa Equipment
UL 726	Oil-Fired Boiler Assemblies
UL 778	Motor-Operated Water Pumps
UL 1081	Swimming Pool Pumps, Filters, and Chlorinators
UL 1241	Junction Boxes for Swimming Pool Luminaires
UL 1261	Electric Water Heaters for Pools and Tubs
UL 1480	Speakers for Fire Alarm, Emergency, and Commercial and Professional Use

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UL 1563	Electric Spas, Equipment Assemblies, and Associated Equipment
UL 1795	Hydromassage Bathtubs
UL 1951	Electric Plumbing Accessories
UL 2017	General-Purpose Signaling Devices and Systems
UL Subject 2452	Outline of Investigation for Electric Swimming Pool and Spa Cover Operators
UMC	Uniform Mechanical Code
UPC	Uniform Plumbing Code
USEC	Uniform Solar Energy Code
USPSHTC	Uniform Swimming Pool, Spa, and Hot Tub Code

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